

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D 4101-3 PAR #: _____ Fault Category: Fin Machining NCR: (Yes) No DQA: [Signature] Date: 10/12/08
 Resolution: Scrap Disposition: Scrap QA: N/C Closed: [Signature] Date: 10/12/08

NCR: 618 20		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10/11/10	110	5 parts scrap. the .610 measure are too long .680" R.C. program error - still @ Rev. A	<u>[Signature]</u>	scrap and destroy no replace. update 2 Folio FA946 to Rev. B.	<u>cmk</u> 10/12/08 <u>[Signature]</u>	<u>[Signature]</u> 10.12.08	<u>[Signature]</u>	<u>[Signature]</u> 10.12.08

NOTE: Date & initial all entries

Work Order ID 61820

Tuesday, September 07, 2010 12:46:17 PM

Page 2

Item ID: D4101-3

Accept

Revision ID:

Item Name: Step

Start Date: 9/7/2010 Start Qty: 20.00

Required Date: 10/13/2010 Req'd Qty: 20.00

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

140

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

150

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control



10.12.6

15

=> M 10/12/06

15

0

15 10/12-6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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NOTE: Date & initial all entries

Work Order ID 61820

Tuesday, September 07, 2010 12:46:17 PM



Page 3

Item ID: D4101-3

Accept



Setup Start



Revision ID:

Stop



Item Name: Step

Start Date: 9/7/2010 Start Qty: 20.00



Cust Item ID:

Required Date: 10/13/2010 Req'd Qty: 20.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

Identify as per dwg & Stock Location: G-A

0.00



Packaging

Memo

0.00

Packaging

EF 10/12/08 (15)

170

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/12/08
MF
10-12-08

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NOTE: Date & initial all entries

Picklist Print

Tuesday, September 07, 2010 12:46:21 PM

Page 1

Work Order ID: 61820



Parent Item: D4101-3



Parent Item Name: Step

Start Date: 9/7/2010

Required Date: 10/13/2010

Start Qty: 20.00

Required Qty: 20.00

Comments: EST REV:A NEW ISSUE

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B1.250X04.50 0		Purchased	No			100	f	24.7785	0.33	6.947368			



32 10/11/10

6061-T6 Bar 1.25 X 4.50

Location

Loc Qty

Loc Code

MAT10

24.77849

112628

24.77849

6.95

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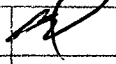
NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 61820
Description: STEP		Part Number: D4101-3
Inspection Dwg: D4101	Rev: B	Page 2 of 2

FIRST ARTICLE INSPECTION CHECKLIST


Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.030	+/- .010	0.030	✓		Vern	GA-01
R0.06	+/- .030	R0.063	✓		R-G	ref.
0.25	+/- .030	0.249	✓		Vern	GA-01
4.00	+/- .030	4.000	✓		"	"
2.60	+/- .030	2.600	✓		"	"
1.05	+/- .030	1.051	✓		"	"
1.53	+/- .030	1.521	✓		"	"
0.950	+0.015/- .000	0.958	✓		"	"
0.25	+/- .030	0.252	✓		"	"
9°	+/- 1/2°	9°	✓		CNC-03	A-M
0.07	+/- .030	0.070	✓		Vern	GA-01
0.25	+/- .030	0.245	✓		"	"
Ø 0.257	+0.005/- .001	Ø 0.262	✓		"	"
0.300	+0.000/-0.015	0.296	✓		"	"
R0.06	+/- .030	R0.063	✓		R-G	ref.
0.600	+/- .010	0.597	✓		Vern	GA-01
0.270	+0.000/-0.015	0.261	✓		"	"
0.610	+/- .010	0.610	✓		H-G	31006
0.65	+/- .030	0.650	✓		H-G	31006
0.17	+/- .030	0.170	✓		Vern	GA-01
0.10	+/- .030	0.105	✓		"	"
0.75	+/- .030	0.748	✓		"	"
1.15	+/- .030	1.148	✓		"	"

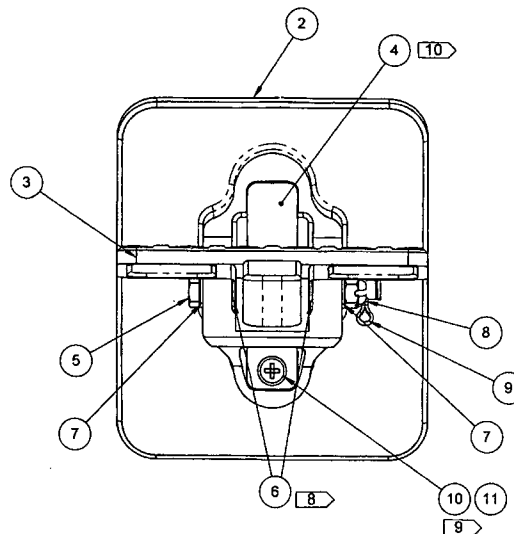
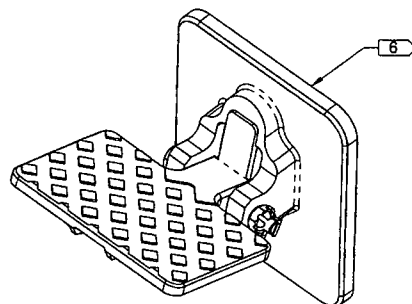
Measured by: B.A.
Date: 10/11/29

Audited by: 
Date: 10-12-6

Preliminary Approval:
Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

 10.04.15



D4101-041 PRE-FLIGHT STEP ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: NONE
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4101-041" USING FINE POINT PERMANENT INK MARKER BACK SURFACE
- 7) WEIGHT: 1.18 lbs
- 8) INSTALL NAS1149D0432J WASHER IN BETWEEN STEP AND BRACKET MATING FACES
- 9) TORQUE AN525832R SCREW TO 15-25 in-lb
- 10) TEXTURED SIDE TO BOTTOM

ITEM	QTY -041	PART NUMBER	DESCRIPTION
1	X	D4101-041	PRE-FLIGHT STEP ASSEMBLY
2	1	D4101-1	BRACKET
3	1	D4101-3	STEP
4	1	D4101-5	SPRING
5	1	AN4-22	BOLT
6	2	NAS1149D0432J	WASHER
7	2	NAS1149D0463J	WASHER
8	1	AN310-4	NUT
9	1	MS24665-136	COTTER PIN
10	1	AN525-832R6	SCREW
11	1	MS21209C0815	HELICOIL

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 61820
BFW-907

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2010-08-23

B	NAS1149D0432J WAS NAS1149D0418J (ZN D3-1); ADD SCREW AND HELICOIL (ZN D3-1& B1-3); RE-DESIGN D4101-5 (ZN B4-5)	RF	10.08.05
A	NEW ISSUE	RF	10.07.12
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D4101	SHEET 1 OF 5
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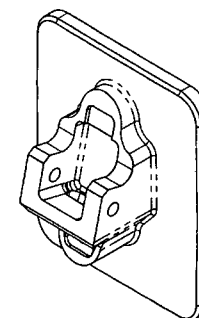
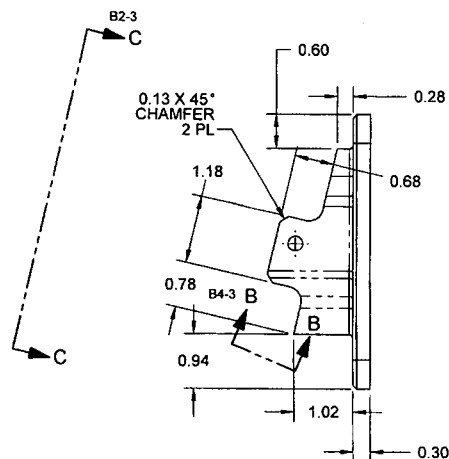
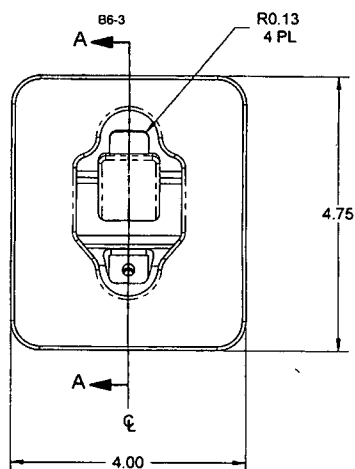
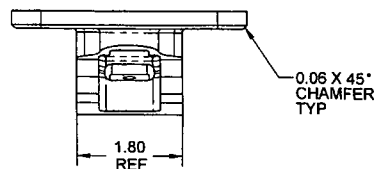
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4101-1 BRACKET

NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.85 lbs

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MFG. APPR.	<i>[Signature]</i>	D4101	SHEET 2 OF 5
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	PRE-FLIGHT STEP ASSEMBLY	NTS
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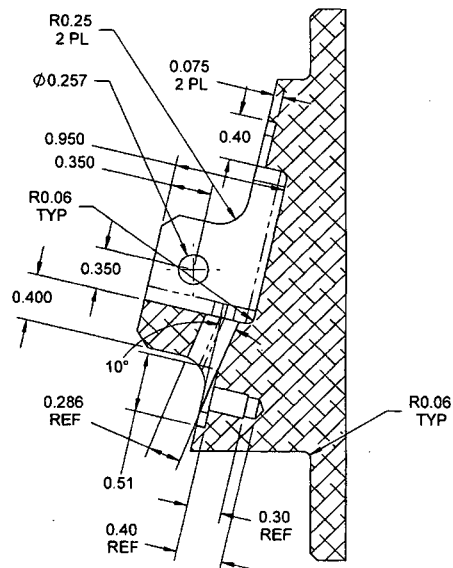
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

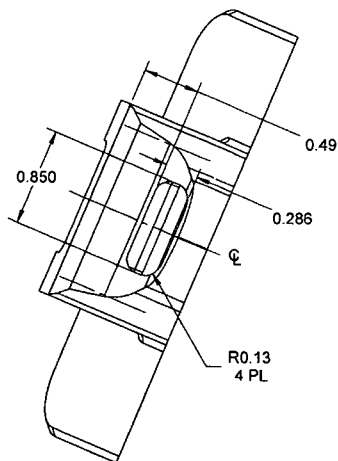
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

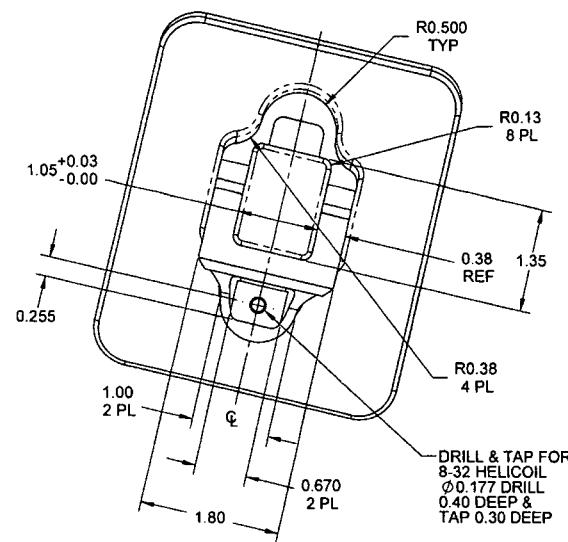
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SECTION A-A C7-2
SCALE 2X



VIEW B-B C4-2
SCALE 2X



VIEW C-C D4-2
SCALE X1.5

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2010-08-23

w/0 41820

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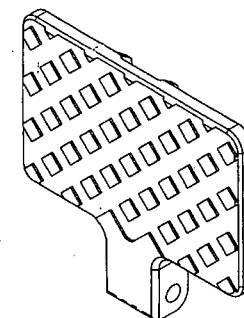
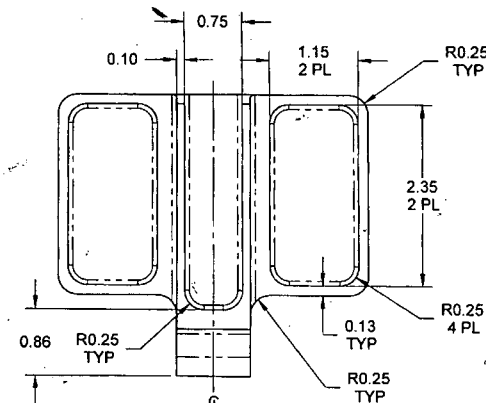
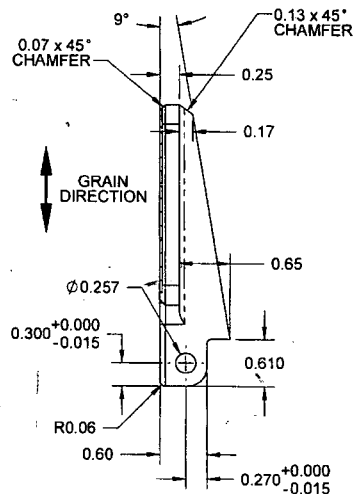
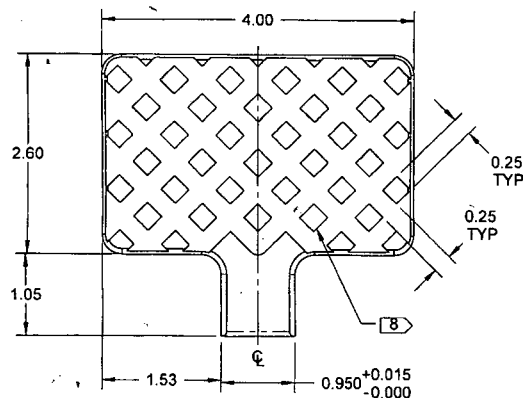
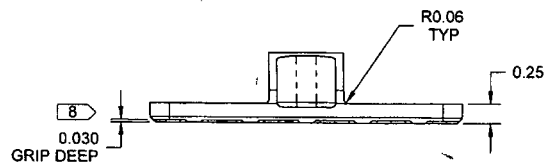
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4101-3 STEP

NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.27 lbs
- 8) MACHINE 0.25 x 0.25 GRIP 0.030 DEEP AT 45° PATTERN 0.25 APART

elc 41820

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2010-08-23

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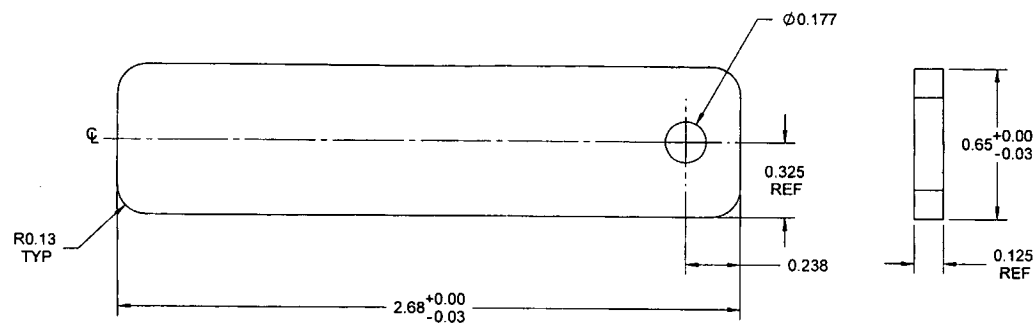
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4101-5 SPRING



WLU 61820

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2010-08-23

WNP

NOTES:

- 1) MATERIAL: F60029-GY3778 DARK GREY LEXAN SHEET (HEAVY HAIRCELL TEXTURE) 0.125 THICK
REF DART SPEC MLEXS.125-F60029-04
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.01 lbs

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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